

REMARKS

In the office action of March 1, 2006, the Examiner rejected the claims based on Lendi, Dalbec, and Kellogg. The office action was made final.

Applicant notes that the finality of the office action is improper. In the previous office action, the Examiner found that claim 22 would be allowable if rewritten in independent form with the limitations of independent claim 20 and intervening claim 21. Applicant, in the previous response, amended claim 20 to include the limitations of claim 21 and claim 22. The Examiner rejects claim 20, containing the limitations of prior claim 22 that were previously held as allowable, based on new art. The new rejections are not necessitated by any amendment made by Applicant, and the office action of March 1, 2006 should therefore be non-final.

Regarding the information disclosure statement previously filed, Applicant is unaware of why these references were not received. Applicant has included with this response new copies of these two Australian references. Please notify if an additional information disclosure statement must be filed for the references. If and additional fees are needed, they may be charged to the deposit account of Applicant's Attorney.

Applicant has corrected claims 6 and 16 to address the informalities noted in item 3 of the office action.

As regarding the §112 rejection, Applicant submits that the use of the terms "bullet proof metal plate" (as currently amended) and "bullet proof steel plate" are well understood in the art. The term bullet proof simply means impenetrable by bullets. A quick search reveals that this term (bullet proof) is used in the claims of more than a hundred patents. Significant numbers of these patents provide no definition for the term. Anyone of ordinary skill in the art will

understand “bullet proof metal plate” to be a metal plate which is generally impenetrable to bullets. The Examiner will appreciate that metals of many different hardness are available, and as such, the ability of a metal plate to be bullet proof is dependent on a combination of the composition of the metal, the hardness of the metal, the thickness of the metal, etc. Such is well understood in the art. Applicant is therefore unwilling to limit the claims to a specific metal alloy, a specific hardness, or a specific thickness, as the ability of a metal plate to be impenetrable to bullets is a combination of these factors and the invention is not a new alloy, hardness, or thickness, but is a new joint which reduces ricochets and bullet splatter through.

Applicant has amended some of the claims to more clearly distinguish over the prior art

Applicant notes that Dalbec teaches away from the present invention. The present invention requires a facing strip which contacts the plates only at the edges, and which is not penetrated by the attachment bolt. Dalbec, however, teaches a strip which contacts the plates along a large surface of the strip, and which is penetrated by the screws. A smaller strip is used to cover the screw heads. Thus, one strip contacts the plates but is penetrated by the screws, and the other strip is not penetrated by the screws but does not contact the plates; both inconsistent with the present claims. Dalbec is therefore not discussed relative to each individual claim as it teaches away from all of the independent claims.

Claim 1 recites at least one bracket welded to the facing strip and having a slot, and having the bolt disposed in the slot. The prior art does not teach a bracket which is attached to the facing strip. Kellogg teaches a bracket which is first attached to a wall and the facing strip snapped over the bracket. Welding the bracket is contrary to the taught functionality of the Lendi and Kellogg devices. Lendi teaches that the bolt holds the bracket against the facing strip. Neither of the references teaches a slot which receives the bolt. Kellogg teaches nailing through

a hole, and Lendi teaches studs welded to the bracket. Claim 1 further requires a bolt disposed in a slot so as to be attached to the facing strip. The prior art does not teach such a configuration. Claim 1 further requires that only the lateral edge of the facing strip contact the plates. Lendi and Kellogg both teach facing strips which are bent such that a front or back surface of the facing strip contacts the plates, not just the edge. Applicant's configuration is effective at making a bullet proof joint. The structural differences shown in the prior art are useful for an automotive support surface as in Lendi, or a decorative molding as in Kellogg, but are not safe and effective designs for making a bullet proof joint.

Claim 2 is independently patentable as it requires that the bracket is flat and disposed generally parallel to the lateral edges of the facing strip. The bracket in Lendi is a bent channel, and the bracket in Kellogg is a curved piece having additionally curved edges and having a recessed center.

Claim 4 is independently patentable as it requires two brackets having slots on opposing sides. Such is not shown in the prior art. The prior art does not teach any slots, but taught nail holes and welded studs.

Claim 5 is independently patentable as it requires facing strip sides extending rearwardly at angles of about 12.5 degrees. Such an angle is particularly effective at preventing bullet leakage through the joint and at eliminating ricochets. Lendi teaches a 90 degree angle, which is particularly dangerous as bullets striking this inside corner can ricochet back towards the shooter. Kellogg curves to include a 90 degree angle, as well as curving past a 90 degree angle, allowing for dangerous ricochets as well as bullet leakage through the joint.

Claim 6 is independently patentable as it requires the brackets as defined in claim 2, not shown in the prior art, and requires that the brackets contact the plates. Kellogg teaches brackets which are not flat as defined. Lendi teaches brackets which do not contact the plates.

Claim 7 is patentable as it requires a facing strip bent along the center to form an angle less than 180 degrees having two sides extending outwardly and backwardly from the center. Lendi is not bent at the center, but is bent along the sides and the bent side portions do not extend outwardly, but only backwardly at 90 degrees, a structure which causes dangerous ricochets in a ballistic environment. The claim requires a flat plate steel bracket which has a slot therein and which is in a planar relationship with the lateral edges. Neither piece of prior art teaches this. The claim also requires the bracket be welded to the facing strip. Both pieces of prior art teach away from this. Lendi teaches that the bracket is held against the facing strip by the tightened studs during assembly. Kellogg teaches first installation of the bracket by nailing to the wall, and second installation of the facing strip by snapping over the bracket. If the bracket and facing strip were welded together, installation would be virtually impossible. Claim 7 requires that the bracket hold the bolt to the facing strip. Lendi teaches that the bolt hold the bracket to the facing strip. This is simply incompatible with the claim language. Kellogg also does not teach the bracket as a method of mounting the bolt (nail in this case) but teaches the nail as mounting the bracket to the wall and later mounting of the facing strip.

Claim 8 is independently patentable as it requires a specific facing strip angle. As discussed above, this is not taught and is thus patentable.

Claim 9 is independently patentable as it requires slots formed on opposing sides of brackets. As discussed above, this is not taught in the prior art.

Claim 10 is patentable as it requires a facing strip bent such that only the edges contact the plates. As discussed, Lendi and Kellogg reach facing strips which are bent so as to contact along a surface of the facing strip. Claim 10 further requires a slot formed in brackets to receive a bolt shank and prevent the bolt head from passing through to hold the bolt to the facing strip. As has been discussed, Neither reference teaches a slot, and neither reference uses a bracket to hold a bolt or fastener to the facing strip. Lendi used the bolt to hold the bracket to the facing strip, and Kellogg uses the nail to mount the bracket to the wall independent of the facing strip, and later mounts the facing strip.

Claim 11 is independently patentable as it requires slots on opposing sides of different brackets. This is not shown in the prior art.

Claim 12 is independently patentable as it fixes the angle of the facing strip at an angle not shown in the prior art which allows for a joint which is safe from ricochets and which prevents bullet splatter through. The prior art shows angles between the facing strip and plates which are dangerous for ricochet and which are much less effective at preventing lead splatter through.

Claim 13 is patentable as it requires a plurality of brackets permanently attached to the facing strip. The prior art all teach away from permanent attachment. The claim further requires that only the edges of the bracket touch the plates, not shown in the prior art.

Claim 14 is independently patentable as it requires an angle of 155 degrees and linear sides not shown in the prior art, as has been discussed.

Claim 15 is independently patentable as it requires slots on opposite sides of different brackets, which is not shown as has been discussed.

Claim 16 is patentable as it requires attaching bolts to the facing strip without penetrating therethrough prior to attaching the facing strip to the joint. As has been discussed, Lendi teaches using the studs to attach the bracket to the facing strip upon tightening to the plates; the bolts are not attached to the facing strip as claimed. Kellogg teaches a structure where the bracket is attached first and the facing strip attached later. Such is inconsistent with the claimed language.

Claim 17 is independently patentable as it requires attaching the bolts via the brackets prior to placement of the facing strip against the plates. As has been discussed, the prior art teaches against this.

Claim 18 is independently patentable as it requires removably positioning the bolts in the brackets. Lendi teaches welded studs and Kellogg teaches nails which are held captive once the facing strip is installed.

Claim 19 is independently patentable as it requires slots disposed on opposite sides of brackets, which is not taught as has been discussed.

It is noted that claims 16 through 18 have not been amended as to scope, but only to correct a typographical error.

Claim 20 is allowable as it requires, among other limitations, brackets permanently attached to the facing strip. As has been discussed the prior art teaches away from such an arrangement.

Claim 22 is independently patentable as it requires a plurality of brackets. The prior art shows a single continuous bracket. The prior art teaches away from forming a plurality of brackets as this would impede proper alignment and hinder installation (especially as the brackets are taught as being separate from the facing strip).

Claim 24 is patentable as it requires permanent brackets, not taught by the prior art.

Applicant believes that the claims are thus in condition for allowance.

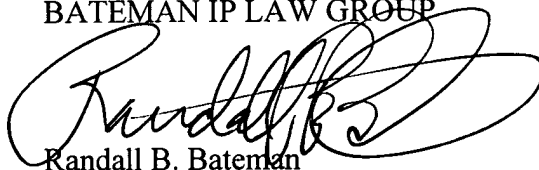
Applicant again notes that claim 22 (dependent from claim 20 via intervening claim 21) was held as allowable in the previous office action. In response, Applicant amended the limitations of claim 21 and 22 into claim 20. Thus, the new rejection of claim 20 is not necessitated by Applicant's amendment and requires that the office action of March 1, 2006 be a non-final office action. Applicant has responded accordingly and requests that this amendment be entered and duly considered.

The Commissioner is hereby authorized during the entire pendency of this application to credit any overpayment and debit any amount owing, including fees for extensions of time, to Deposit Account No. 50-2720.

Should the Examiner have any concerns with the present amendment, it is requested that he contact Applicant's counsel, Randall B. Bateman, at (801) 533-0320 so that these concerns may be quickly resolved.

Sincerely,

BATEMAN IP LAW GROUP



Randall B. Bateman
Reg. No. 37,774
8 East Broadway, Suite 550
P.O. Box 1319
Salt Lake City, UT 84110

Tel. (801) 533-0320
Fax. (801) 533-0323

E-mail: rbb@utah-ip.com

114
760 2

53

COMMONWEALTH OF AUSTRALIA

PATENT SPECIFICATION

127,432

Application Date: 3rd Apr., 1946.

No. 2,586/46.

Applicant (Actual Inventor) FRANK DAVID MEADOWS.
Application and Provisional Specification Accepted, 13th April, 1948.
Complete Specification after Provisional
Specification Lodged, 28th January, 1947.
Complete Specification open to Public Inspection
—Sec. 38A of the Patents Act 1903-1946 3rd April, 1947.
Complete Specification Accepted, 13th April, 1948.
Acceptance Advertised (Sec. 50) 29th April, 1948.

Class 54.7

Drawing attached.

COMPLETE SPECIFICATION

"Improvements in or relating to means for connecting the edges of adjacent glass sheets or other panels."

I, FRANK DAVID MEADOWS, of 28 Eildon Road, St. Kilda, in the State of Victoria, Commonwealth of Australia, Glass Merchant, hereby declare this invention and the manner in which it is to be performed, to be fully described and ascertained in and by the following statement:—

This invention relates to means for connecting the edges of adjacent sheets or panels, such as translucent or transparent sheets, as for instance glass panels in windows, display counters, show cases or the like, and opaque panels, such as timber or metal sheets or plates used in doors, partitions, packing crates, and the like.

Now the principal object of this invention is to provide connecting means of simple and durable construction, whereby the edges of sheets or panels disposed in angular relation or in extended alignment may be securely clamped and held together and which, moreover, may be adapted for at-

tachment of brackets, stays, corner pieces, and like metallic fittings.

Generally, the invention is adaptable for connecting the edges of sheets or panels disposed in angular relation or in straight, flush, or extended alignment.

A further object of the invention is the provision of connecting means for the above stated purpose, which may be economically produced from light gauge sheet metal by the use of appropriate folding dies.

With the above stated objects in view, there is provided according to this invention, means for connecting the ends or edges of adjacent glass or other panels comprising a tubular member composed of sheet metal and having longitudinal angularly related or aligning seatings or flanges, and an associated clamping member or strip having corresponding flanges to form with each of the first mentioned seatings or

flanges, a groove or channel in which the ends or edges of the panels are clamped by the attachment of said member or strip to the tubular member.

5 In one practical arrangement of the invention the tubular member is formed in one piece from a length of metallic strip and having a substantially medial portion of single thickness co-extensive with flat 10 folded sides forming the seatings or flanges from which the sides arcuately extend towards each other in overlapped arrangement to form with the medial portion and between said seatings or flanges, the tubular 15 portion of said member.

The side or medial portion of the strip opposite the overlapped sides may be bent at an angle corresponding with the inclination of angularly related sheets or panels, 20 to appropriately align the seatings for the reception of said sheets or panels. Alternatively, the side or medial portion of the metal strip positioned oppositely to the overlapped sides may be straight with the 25 longitudinal flanges or seatings disposed in alignment, whereby the connecting means is adapted to associate sheets or panels in extended alignment.

In order that the clamping strip or member and brackets, stays, and other fixtures 30 may be secured to the connecting means, a metallic or wooden core is inserted into the tubular portion of the tubular member, to which the fixtures may be secured by screws or like fastenings. Such a core when inserted 35 through the tubular portion prevents spreading or distortion and provides a convenient binding member to which the overlapped sides of the tubular portion may be secured by screws or other suitable fastenings. 40 Alternatively, the overlapped sides may be connected together by pinning or spot welding or by the engagement of tongues formed on one of the overlapped 45 edges with complementary slots in the other of said edges.

The accompanying drawings depict a practical arrangement of the connecting means according to this invention.

50 In these drawings:—

Fig. 1 is a perspective view of the connecting means employed for joining an angularly related pair of panels.

55 Fig. 2 is a section taken on line 2-2 of Fig. 1.

Fig. 3 is a detailed end elevation of the

tubular metal strip forming part of the connecting means,

Fig. 4 is an end elevation of the connecting means joining a pair of aligning panels.

Referring to Figs. 1 to 3 of the drawings 5 to form the tubular member indicated generally at 5, a metal strip of required length, width and gauge or thickness is bent at right angles along the central longitudinal plane to form two portions 6 - 7 at right 10 angles, the apex or corner 8 between the two portions being appropriately curved or radiused.

At substantially equal distances on opposite sides of the longitudinal bend the 15 metal strip is folded inwardly to lie flatly upon itself for required distances, to form two seatings 9 - 10 disposed at right angles.

The opposite longitudinal edges 11 - 12 20 of the strip are then bent in arcuate formation and are overlapped as at 13 to form in co-operation with the radiused corner 8 of the central band, a longitudinal tubular portion 14 from which the seatings 9 - 10 25 project at right angles in substantially tangential arrangement as clearly illustrated in Fig. 3.

The seatings 9 - 10 in the finished form of the tubular member or strip form continuous flanges for the length of the strip. 30

Through the longitudinal tubular portion 14 there is inserted a cylindrical metal rod 15 to which the overlapped edges 11 - 12 35 may be secured by screws passed at spaced intervals through aligned holes in the overlapped edges into engagement with tapped holes in the metal rod 15 which forms a reinforcing core extending through said tubular portion.

In order to clamp the adjacent edges of the perpendicularly related sheets or panels 40 16 - 17 upon the seatings, there is provided an associated clamping member or strip 18 made of metal strip and of channel formation with the top 19 of the channel arcuately 45 contoured to coincide with the curvature of the tubular portion 14 of the strip 5.

The clamping strip 18 is positioned in the corner between the sheets or panels 50 16 - 17 and overlies the tubular portion 14, and the opposite sides or flanges 18a - 18b of the channel clamping strip 18 are substantially parallel with the seatings 9 - 10 and form with the latter continuous 55 grooves or channels 20 in which the ends

of the sheets or panels 16 - 17 are seated as viewed in Fig. 2.

In order to tighten the clamping strip 18 to grip the edges of the sheets or panels 16 - 17, screws 21 or the like are passed at spaced distances apart through aligned holes in the clamping strip 18, the overlapped edges of the tubular member 5 and core rod 15, the holes 22 in the latter being tapped to permit the screws 21 being tightened against the clamping strip 18 to force the latter into contact with the edges of the sheets or panels 16 - 17. A bracket 23, or other fixtures, may be positioned between the sheets or panels 16 - 17 and similarly secured by screws 25 passed into the core rod 15.

As illustrated in Fig. 4, the flanges or seatings 26 of the tubular member 27 are disposed in horizontal alignment with the tubular portion 27 substantially semi-circular to permit the connection of panels 23 - 24 arranged in transverse alignment. The clamping strip 28 is correspondingly formed with the arcuate portion 29 to seat against the tubular portion 27 with its flanges 30 oppositely disposed whereby the ends of panels may be clamped between said flanges 30 and seatings 26, a core rod 31 being inserted into the tubular portion to receive the fastening screws 32 as hereinbefore described.

A connection for sheets or panels constructed as described, may be made by folding dies and can be produced much more cheaply than extruded or drawn sections, which latter must necessarily be of heavier section than the former to withstand the stresses incidental to the extruding or drawing process. Moreover, the connection is free of die marks, and when applied to sheets or panels, fits closely upon the latter and has a neat or flush finish and appearance which is very desirable in glass panels.

Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is:—

1. Means for connecting the ends or edges of adjacent glass or other panels

comprising a tubular member composed of sheet metal and having longitudinal angularly related or aligning seatings or flanges, and an associated clamping member or strip having corresponding flanges to form with each of the first mentioned seatings or flanges, a groove or channel in which the ends of edges of the panels are clamped by the attachment of said member or strip to the tubular member.

2. Means for connecting the ends or edges of adjacent glass or other panels according to Claim 1 and when the tubular member is formed in one piece from a length of metallic strip and having a substantially medial portion of single thickness co-extensive with flat folded sides forming the seatings or flanges from which the sides arcuately extend towards each other in overlapped arrangement to form with the medial portion and between said seatings or flanges, the tubular portion of said member.

3. Means for connecting the ends or edges of adjacent glass or other panels, according to either Claim 1 or Claim 2 and wherein the tubular portion of the tubular member has located therein a solid core, for the purpose herein specified.

4. Means for connecting the ends or edges of adjacent glass or other panels, according to any preceding claim, and wherein the clamping member or strip is formed with a longitudinal arcuate section between its flanges, to seat upon the arcuate overlapped sides of the tubular member, and is secured thereto by screws or the like extending into the solid core.

5. Means for connecting the ends or edges of adjacent glass or other panels, comprising the construction substantially as hereinbefore described with reference to and as illustrated by either Figs. 1 to 3 or Fig. 4 of the accompanying drawings.

Dated this 23rd day of January, 1947.

FRANK DAVID MEADOWS,

By his Patent Attorneys,

EDWD. WATERS & SONS.

Fellows Institute of Patent Attorneys
of Australia.

Witness—L. N. Dobel.

189/28.2 19-2

52/281

127,432

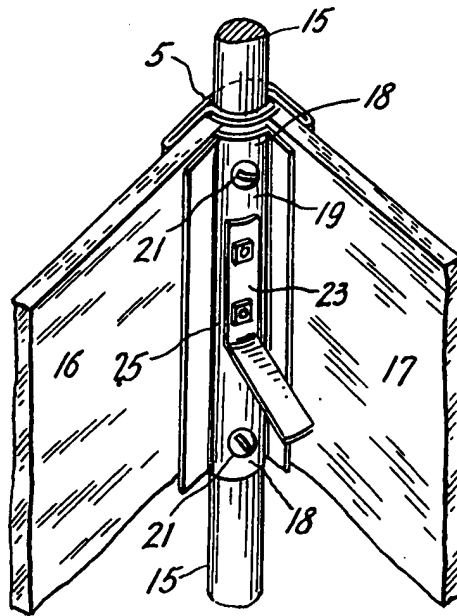


FIG. 1.

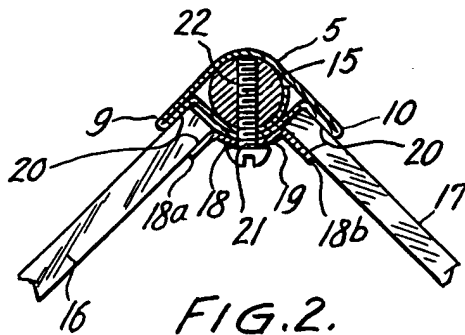


FIG. 2.

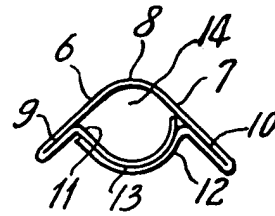


FIG. 3.

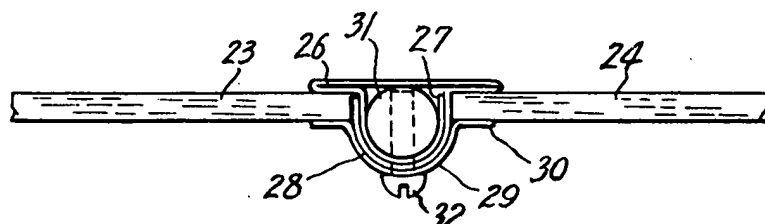


FIG. 4.

202340

COMMONWEALTH OF AUSTRALIA
PATENT SPECIFICATION

Complete Specification Lodged 19th August, 1954

Application Lodged No. 2525/54 19th August, 1954

Applicant... (Actual Inventor) - Franz Büchler

Convention Application
(Switzerland - 21st August, 1953, and 23rd April 1954) 1956

LIBRARY

U. S. P.

Complete Specification Published 24th February, 1955

Complete Specification Accepted 5th July, 1956

Classification 81. 3.

Drawing attached.

COMPLETE SPECIFICATION.

"FITTING FOR SECURING WALL COVERING PLATES AND
SEALING THE JOINTS THEREOF."

The following statement is a full description of this invention, including the best method of performing it known to me:-

The present invention relates in general to fittings for wall covering plates, both for securing the latter and for sealing their joints.

The plates designed for covering the outer and inner walls of buildings require reliable securing fittings which enable such plates to be rapidly and permanently attached, if possible without any special treatment of the single plates. Furthermore it is desirable to seal the joints between the plates in a suitable manner, a process which should likewise be permanent and capable of being carried out without great expenditure of labour. The securing fittings known hitherto for such purposes only partly meet these requirements; they take a considerable time to attach and are little suited for certain methods of securing the covering plates, such as for instance those methods in which putty or paste is used. The profiles hitherto available for sealing the joints have the disadvantage that they require to be specially secured in

1.

8. -2/8/1956. -90.

the joints or on the plates.

In contrast to this, the present invention relates to a combined fitting for securing wall covering plates and sealing the joints thereof, characterised by a securing profile and a joint sealing profile, of which the first named profile, which is securable to the wall to be covered, consists of a rail which is adapted to the course of the wall and of which the outward facing surface is at least in part even and so arranged that wall covering plates can be secured thereto with putty, while the joint sealing profile consists of a rail which is likewise adapted to the course of the wall, two longitudinal ribs projecting close together from one of the two opposite surfaces of the securing or joint sealing profile, which ribs form between themselves a longitudinal channel of which the inner sides are provided with a plurality of parallel sharp-edged longitudinal grooves, whilst the other surface carries a longitudinal rib the side walls of which are likewise provided with a plurality of parallel sharp-edged longitudinal grooves, the said rib fitting approximately into the longitudinal channel on the opposite surface, which joint sealing profile, when the wall covering plates have been pasted on to the even surfaces of the securing profile, is pressed on to the said securing profile and thus the grooved longitudinal rib of the one surface running along the plate joints is forced into the grooved longitudinal channel of the other surface and held fast by the grooves whilst at least the outer edges of the joint sealing profile bear on the plates.

Various typical embodiments of the invention will now be described in detail in conjunction with Figs. 1 to 6. In the attached drawing:

Fig. 1 is a cross-section through the two-part fitting according to the invention, as used for the plate covering of an even wall;

Fig. 2 is a cross-section through the fitting according to the invention, designed for an outer edge of a wall covering;

Figs. 3 and 4 are cross-sections of the fitting according to the invention, as used for the plate covering of an external and an internal corner of a wall respectively;

Fig. 5 is a cross-section of the fitting according to the invention, as used for the plate covering of an external corner of a wall and equipped with a half round joint sealing profile;

Fig. 6 is a further typical embodiment of the fitting according to the invention;

Fig. 7 is another fitting similar to that shown in Fig. 2 but on an enlarged scale;

Figs. 8 and 8 are further typical embodiments of a fitting similar to that shown in Fig. 1.

Fig. 1 shows in cross-section a typical embodiment of the securing and joint sealing fitting for the covering of an even wall 1 with the wall covering plates 2. According to the invention

the fitting consists of two parts, the securing profile 3 and the joint sealing profile 4. In the embodiment illustrated the securing profile 3 consists of a flat rail 5, which has even surfaces 6 on its outward facing side and is provided with grained grooves 7. The latter facilitate drilling of the rail for the purpose of securing it to the wall 1, the securing being effected here for instance by means of the peg 8. Along its centre line the flat rail 5 has two longitudinal ribs 9 and 10 which are set close together and form between them a channel 11, the side walls of which are preferably parallel and vertical to the flat rail 5. The height of the ribs 9, 10 is approximately adapted to the thickness of the covering plates 2 to be treated and is preferably a little smaller than the said thickness, but the height of the channel 11 formed by the ribs 9, 10 should appropriately be greater than its width. The two inner sides of the channel 11 are provided with a plurality of parallel and sharp-edged longitudinal grooves 12, shaped here for instance like saw teeth and facing, together with the surface vertical to the channel wall, towards the bottom of the channel.

In the embodiment shown in Fig. 1 the joint sealing profile 4 likewise consists of a flat rail 13 which carries on its inner side a vertical longitudinal rib 14 which runs along the centre line and has parallel side walls. These side walls are also provided with a plurality of parallel and sharp-edged longitudinal grooves 15, the number and graduation of which correspond to the grooving 12 of the channel 11. In this case the said grooves 15 are also shaped like saw teeth, the surfaces vertical to the rib wall, however, facing upwards. The dimensions of the longitudinal rib 14 and of the longitudinal channel 11 correspond approximately so that, as illustrated in Fig. 1, the rib 14 of the joint sealing profile can be pressed into the channel 11 and held fast by the grooves 12 and 15. The outer longitudinal edges 16 of the securing profile 4 have a larger thickness of material than the rest of the flat rail 13 and are designed as bearing surfaces which press upon the wall covering plates 2.

The fitting according to the invention can be adapted to the requirements of wall coverings of various configuration, further embodiments herefor being shown in Figs. 3 to 5. The invention, however, is not limited thereto.

Fig. 2 shows a typical embodiment of the fitting designed for an outer edge of a wall covering, wherein the securing profile has on its flat rail 5 the two ribs 9, 10 arranged along an outer edge. Here the joint sealing profile is an L-shaped rail with arms 13a and 13b, the inward facing rib 13 being supported by the arm 13a and running parallel to the arm 13b. The wall covering plate is here secured with putty to the even surface 6 and the rib 14 of the joint sealing profile, which here serves to cover the edge, is pressed into the channel 11, both rib and channel being grooved in the same manner as described in conjunction with

Fig. 1. If desired, the inner side of the profile arm 13b and the outer side of the rib 10 can also be provided with longitudinal grooves, as indicated in Fig. 2.

Fig. 3 shows a typical embodiment of the fitting for the plate covering of an outer wall corner. Here, the securing profile is an L-shaped rail with arms 5a and 5b of any length, each of which possesses even surfaces 6 to which putty can be applied. The two ribs 9 and 10, which form the channel 11, here run along the edge common to both profile arms 5a, 5b and project outwards. The joint sealing profile is here formed by a corresponding L-shaped rail with arms 13a, 13b and possesses along the inner edge common to both the said arms the longitudinal rib 14 which is designed to be pressed into the channel 11 and, like the said channel 11, is provided with longitudinal grooves, as described in conjunction with Fig. 1.

Fig. 4 illustrates a corresponding typical embodiment of the fitting for inner wall corners. The securing profile is an L-shaped rail having the arms 5a, 5b and the inward projecting longitudinal ribs 9, 10 for the channel 11. The joint sealing profile, likewise an L-shaped rail with arms 13a, 13b, has here an outward projecting longitudinal rib 14 which is pressed into the channel 11 and, like the said channel, is provided with longitudinal grooving. The other features correspond to those described in conjunction with Fig. 1.

The fitting according to the invention can also be used with a half round joint sealing profile for outer wall corners, a typical embodiment therefor being illustrated in Fig. 5. The securing profile consists here of three surfaces 5a, b, c all inclined at an angle of 30° to each other and having corresponding even surface portions 6 for securing the wall covering plates and grained grooves 7 with putty. The middle rail portion 5b carries the ribs 9, 10 which form the channel 11. The joint sealing profile consists here of a dish-shaped curved, half round rail 13, on the inside of which runs the longitudinal rib 14 designed to be pressed into the channel 11 and held fast thereby the longitudinal grooves. A similar half round joint seal can, of course, also be arranged for inner wall corners.

In the typical embodiments of the fitting according to the invention illustrated in Figs. 1 to 5 the longitudinal ribs 9 and 10, which form the longitudinal channel 11, are always arranged on the securing profile, and the grooved longitudinal rib 14 is always arranged on the joint sealing profile. The invention, however, is in no way restricted to this and it is also possible to arrange the longitudinal channel 11 on the joint sealing profile and the longitudinal rib 14 on the securing profile. Such an embodiment is shown by way of example in Fig. 6 which, for the rest, corresponds to Fig. 3. The other typical embodiments shown in Figs. 1, 2, 4, 5 can also be modified accordingly.

The practical application of the two-part fitting described above in conjunction with Figs. 1 to 6 has revealed that, when great lengths have to be dealt with, the joining of the two parts of the fitting requires considerable power which is undesirable in some cases. It is true that the joined parts of the fitting then have correspondingly greater adhesion but this is generally unnecessary for wall covering plates. Consequently, such a two-part fitting may occasionally be required which can be joined together with the use of less power.

The typical embodiment of the fitting illustrated in Fig. 7 shows such a design for an outer edge of a wall covering, wherein the two ribs 9 and 10 are arranged along an outer edge on the flat rail 5 of the securing profile. The joint sealing profile is here an L-shaped rail with arms 13a and 13b, the inward facing rib 14 being supported by the arm 13a and running parallel to the arm 13b. As compared with the joint sealing profile described above in conjunction with Fig. 2, however, the present profile has a modification in that here the opposite surfaces of the rib 10 and the arm 13b do not possess the longitudinal grooves.

On the other hand, the longitudinal channel 11 of the securing profile is somewhat differently designed here in that the two side walls of the said channel 11 are only provided with one longitudinal groove 18 or 19 respectively. Furthermore the side walls are inclined to the symmetry plane 20 so that the cross-section of the channel 11 becomes enlarged towards the base. The wall thickness of the ribs 9 and 10 is therefore somewhat less at the point where the said ribs pass into the flat rail than at the opposite longitudinal edges. Furthermore a recess 21 or 22 respectively is provided at the points where the longitudinal ribs 9 or 10 respectively pass into the flat rail 5.

The fact that, on the longitudinal rib 14 being pressed into the longitudinal channel 11, the two parts of the fitting only have to overcome the resistance of the two longitudinal grooves 18 and 19 facilitates the joining of the said parts. But the reduction of the wall thickness at the foot of the longitudinal ribs 9 and 10, as well as the two recesses 21 and 22 also help towards this end since now the two longitudinal ribs 9, 10 spring apart somewhat when the rib 14 is pressed into the channel 11. On the other hand, however this springing apart enables the longitudinal grooves 18, 19 to be a somewhat shorter distance from each other than the sharp edges of the rib 14, thus ensuring a reliable anchoring of the rib 14 pressed into the channel 11.

The methods, described in conjunction with Fig. 7, for reducing the amount of power required to join the two parts of the fitting can also be modified to the extent that the side walls of the longitudinal channel 11 run parallel to each other and are provided with a plurality of longitudinal grooves, but the longitudinal rib 14 of the joint sealing profile is conical in shape and has only

one longitudinal groove on each side. Such a design is illustrated diagrammatically in Fig. 8, wherein the conicity is exaggerated for the sake of clarity. Here, too, the recesses 21 and 22 provided at the foot of the longitudinal ribs 9 and 10 serve to increase the elasticity of the said ribs. If desired, the ribs 9 and 10 may in this case as well have a smaller wall thickness at the points where they pass into the flat rail 5 than at their top edge.

Finally, it must also be pointed out that, as indicated by way of example in Fig. 9, the channel 11, having a correspondingly conical cross-section, may also be designed entirely without longitudinal grooves. The longitudinal rib 14 on the joint sealing profile, however, is provided with a plurality of longitudinal grooves so that owing to the sharp longitudinal edges the joined parts of the fitting can be separated from each other only after a substantial friction has been overcome. Nevertheless, the adhesion of the parts of the fitting is of course less rigid than in the embodiments described above which have at least one longitudinal groove on each side. Also, the construction indicated in Fig. 9 can be accordingly modified to the extent that the longitudinal rib 14 can be designed without longitudinal grooves but with a smaller wall thickness at the foot than at the front edge, while the longitudinal channel 11 is provided with a plurality of longitudinal grooves.

It must be pointed out that the fittings illustrated in Figs. 1 to 6 can also be made similar to the typical embodiments described in conjunction with Figs. 7 to 9. Here the longitudinal channel 11 of Figs. 1 to 5 can be designed with only two longitudinal grooves and the rib 14 arranged as indicated, or else the channel 11 can be provided with a plurality of longitudinal grooves and the rib 14 with only one such groove on each side. It is, however, always advantageous to arrange a hollow recess along the foot of each of the longitudinal ribs 9, 10 projecting from the flat rail 5. The arrangement, described in conjunction with Fig. 6, of the longitudinal channel 11 on the joint sealing profile and the longitudinal rib 14 on the securing profile can also be combined in a similar manner with the methods described above in conjunction with Figs. 7 to 9 in order to reduce the power needed to join the parts of the fitting together.

The saw-tooth longitudinal grooving of the channel walls or of the outer sides of the ribs, as illustrated in Figs. 1 to 9, is merely an embodiment given by way of example. Grooves of other shapes can also be provided, but they should preferably be of a type that can be produced in the same operation as the drawing of the profiles. If desired in place of a through longitudinal rib 14 the joint sealing profile can also be provided only with separate sections of such longitudinal ribs, whereby less pressure will be required to force the joint sealing profile into the channel of the securing profile.

The claims defining the invention are as follows:-

1. Fitting for securing wall covering plates and sealing the joints thereof, characterised by a securing profile and a joint sealing profile, of which the first named profile, which is securable to the wall to be covered, consists of a rail which is adapted to the course of the wall and of which the outward facing surface is at least in part even and so arranged that wall covering plates can be secured thereto with putty, while the joint sealing profile consists of a rail which is likewise adapted to the course of the wall, two longitudinal ribs projecting close together from one of the two opposite surfaces of the securing or joint sealing profile, which ribs form between themselves a longitudinal channel of which the inner sides are provided with a plurality of parallel sharp-edged longitudinal grooves, whilst the other surface carries a longitudinal rib the side walls of which are likewise provided with a plurality of parallel sharp-edged longitudinal grooves, the said rib fitting approximately into the longitudinal channel on the opposite surface, which joint sealing profile, when the wall covering plates have been pasted on to the even surfaces of the securing profile, is pressed on to the said securing profile and thus the grooved longitudinal rib of the one surface running along the plate joints is forced into the grooved longitudinal channel of the other surface and held fast by the grooves whilst at least the outer edges of the joint sealing profile bear on the plates. (21st August, 1953).

2. Fitting as defined in Claim 1, characterised by the fact that both the inner sides of the longitudinal channel and the outer sides of the longitudinal rib have a plurality of parallel sharp-edged longitudinal grooves which engage each other when the two parts of the fitting are joined together. (21st August, 1953)

3. Fitting as defined in Claim 1, characterized by the fact that the securing profile has the longitudinal channel and the joint sealing profile the longitudinal rib. (21st August, 1953)

4. Fitting as defined in Claim 1, characterized by the fact that the securing profile has the longitudinal rib and the joint sealing profile the longitudinal channel. (21st August, 1953)

5. Fitting as defined in Claim 1, characterized by the fact that the securing profile is provided with at least one grooved groove parallel to the longitudinal ribs. (21st August, 1953)

6. Fitting as defined in Claim 1, characterized by

the fact that the longitudinal channel formed by the two longitudinal ribs is higher than it is wide. (21st August, 1953)

7. Fitting as defined in Claim 1, characterized by the fact that the longitudinal channel formed by the two longitudinal ribs has substantially parallel side walls. (21st August, 1953)

8. Fitting as defined in Claims 1 and 7, characterized by the fact that the sharp-edged longitudinal grooves have a saw tooth cross-section, each groove having a surface which runs approximately vertical to the channel wall and faces towards the bottom of the channel. (21st August, 1953)

9. Fitting as defined in Claim 1, characterized by the fact that the height of the longitudinal ribs forming the longitudinal channel is approximately equal to the thickness of the wall covering plates. (21st August, 1953)

10. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of a flat rail, along the centre line of which there runs at least one longitudinal rib. (21st August, 1953)

11. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of a flat rail, along one edge of which there runs at least one longitudinal rib. (21st August, 1953)

12. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of an L-shaped rail with arms of any desired length, on which rail at least one longitudinal rib runs along the edge common to both the said arms and the symmetry plane thus formed is inclined at the same angle of approximately 135° to the two arms, that is to say it projects outwards. (21st August, 1953)

13. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of an L-shaped rail with arms of any desired length, on which rail at least one longitudinal rib runs along the edge common to both the said arms and the symmetry plane thus formed is inclined at the same angle of approximately 45° to both arms, that is to say, it projects inwards. (21st August, 1953)

14. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of an angled rail which does not form a right angle, has arms of any length and on which at least one longitudinal rib runs along the edge common to

both arms and projects outwards. (21st August, 1954)

15. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of an angled rail which does not form a right angle, has arms of any desired length and on which at least one longitudinal rib runs along the edge common to both arms and projects inwards. (21st August, 1953)

16. Fitting as defined in Claim 1, characterized by the fact that the securing profile consists of a rail with three surfaces which are inclined to each other, at least one longitudinal rib being arranged vertically on the centre one of the three surfaces. (21st August, 1953)

17. Fitting as defined in Claim 1, characterized by the fact that at least one longitudinal rib of the joint sealing profile possesses side surfaces which are approximately parallel and are vertical to the profile rail. (21st August, 1953)

18. Fitting as defined in Claim 1, characterized by the fact that the longitudinal ribs of the joint sealing profile do not extend over the entire longitudinal extension of the said profile but at least approach the two ends of the said profile. (21st August, 1953)

19. Fitting as defined in Claim 1, characterized by the fact that the longitudinal ribs of the joint sealing profile are divided up into a plurality of short rib sections which are distributed over the entire longitudinal extension of the said profile. (21st August, 1953)

20. Fitting as defined in Claim 8, characterized by the fact that the sharp-edged longitudinal grooves in the side walls of the longitudinal ribs are saw-toothed in cross-section, each groove having a surface which runs approximately vertically to the rib wall, faces towards the rib top and, on the grooved rib being pressed into the grooved channel, engages the saw tooth grooves there. (21st August, 1953)

21. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of a flat rail, along the centre line of which there runs at least one longitudinal rib. (21st August, 1953)

22. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of an L-shaped rail which has one short and one long arm, at least one longitudinal rib being arranged on the longer arm, projecting inwards and run-

ning parallel to the shorter arm. (21st August, 1953)

23 Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of an L-shaped rail with arms of any length on which rail at least one longitudinal rib runs along the edge common to both arms, and that the side surfaces of the longitudinal rib are inclined at the same angle of approximately 135° to both arms, the rib thus projecting outwards. (21st August, 1953)

24. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of an L-shaped rail with arms of any desired length, on which rail at least one longitudinal rib runs along the edge common to both arms, and that the side surfaces of the longitudinal rib are inclined at the same angle of approximately 45° to both arms, the rib thus projecting inwards. (21st August, 1953)

25. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of an angled rail which does not form a right angle, has arms of any desired length and on which at least one longitudinal rib runs along the edge common to both arms and projects outwards. (21st August, 1953)

26. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of an angled rail which does not form a right angle, has arms of any desired length and on which at least one longitudinal rib runs along the edge common to both arms and projects inwards. (21st August, 1953)

27. Fitting as defined in Claim 1, characterized by the fact that the joint sealing profile consists of a dish-shaped, curved rail and that at least one longitudinal rib runs along the inner side of the said rail and faces towards the centre point of the curve. (21st August, 1953)

28. Fitting as defined in Claim 1, with a securing profile as defined in Claim 10 and a joint sealing profile as defined in Claim 21. (21st August, 1953)

29. Fitting as defined in Claim 1 with a securing profile as defined in Claim 11 and a joint sealing profile as defined in Claim 21. (21st August, 1953)

30. Fitting as defined in Claim 1 with a securing profile as defined in Claim 12 and a joint sealing profile as defined in Claim 24. (21st August, 1953)

31. Fitting as defined in Claim 1 with a securing profile as defined in Claim 13 and a joint sealing profile as defined in Claim 23. (21st August, 1953)

32. Fitting as defined in Claim 1 with a securing profile as defined in Claim 14 and a joint sealing profile as defined in Claim 26. (21st August, 1953)

33. Fitting as defined in Claim 1 with a securing profile as defined in Claim 15 and a joint sealing profile as defined in Claim 25. (21st August, 1953)

34. Fitting as defined in Claim 1 with a securing profile as defined in Claim 16 and a joint sealing profile as defined in Claim 27. (21st August, 1953)

35. Fitting as defined in Claims 1, 8 to 14 and 19 to 25, characterized by the fact that the rail of the joint sealing profile has its greatest wall thickness at the outer longitudinal edges, and that the said longitudinal edges are designed on their inner side, facing the wall covering plates, as bearing surfaces with which the joint sealing profile presses on the wall covering plates after the fitting has been joined together. (21st August, 1953)

36. Fitting as defined in Claim 1, characterized by the fact that of the two holding members, consisting of a longitudinal channel and a longitudinal rib fitting into the said channel, only one is provided on its sides with a plurality of longitudinal grooves, and furthermore the walls of the longitudinal channel are elastically designed. (23rd April, 1954)

37. Fitting as defined in Claim 36, characterized by the fact that the holding member which has not a plurality of longitudinal grooves is provided with only one longitudinal groove on either side. (23rd April, 1954)

38. Fitting as defined in Claim 36, characterized by the fact that the holding member which has not a plurality of longitudinal grooves possesses a slightly cone-shaped cross-section. (23rd April, 1954)

39. Fitting as defined in Claim 38, characterized by the fact that the holding member which has not a plurality of longitudinal grooves is the longitudinal channel, the inner width of which is greater near the base than in the vicinity of the channel opening. (23rd April, 1954)

40 Fitting as defined in Claim 38, characterized by the fact that the holding member which has not a plurality of longitudinal grooves is the longitudinal rib, the cross-section of which is less wide at the point where the said rib passes into the rail than at the opposite, top edge of the said rib. (23rd April, 1954)

41. Fitting as defined in Claims 37 to 39, characterized by the fact that the channel walls have on either side a longitudinal groove in the vicinity of the channel openings (23rd April, 1954)

42 Fitting as defined in Claims 37, 38 and 40, characterized by the fact that the longitudinal rib has on either side a longitudinal groove in the vicinity of the top edge of the said rib. (23rd April, 1954)

43. Fitting as defined in Claim 36, characterized by the fact that the thickness of the walls forming the longitudinal channel is less at the point where the said walls pass into the rail than in the vicinity of the channel opening. (23rd April, 1954)

44. Fitting as defined in Claim 36, characterized by the fact that the walls each possess on their outer side at the point where they pass into the rail a recess which extends over the entire longitudinal extension of the walls. (21st August, 1953)

45. Fitting for securing wall covering plates and sealing joints therefor, substantially as hereinbefore described with reference to Figure 1 of the drawings. (21st August, 1953)

46. Fitting for securing wall covering plates and sealing joints therefor, substantially as hereinbefore described with reference to Figure 2 of the drawings. (21st August, 1953)

47. Fitting for securing wall covering plates and sealing joints therefor, substantially as hereinbefore described with reference to Figures 3, 4, 5 or 6 of the drawings. (21st August, 1953)

48. Fitting for securing wall covering plates and sealing joints therefor, substantially as hereinbefore described with reference to Figure 8 or 9 of the drawings. (23rd April, 1954)

1956

202,340

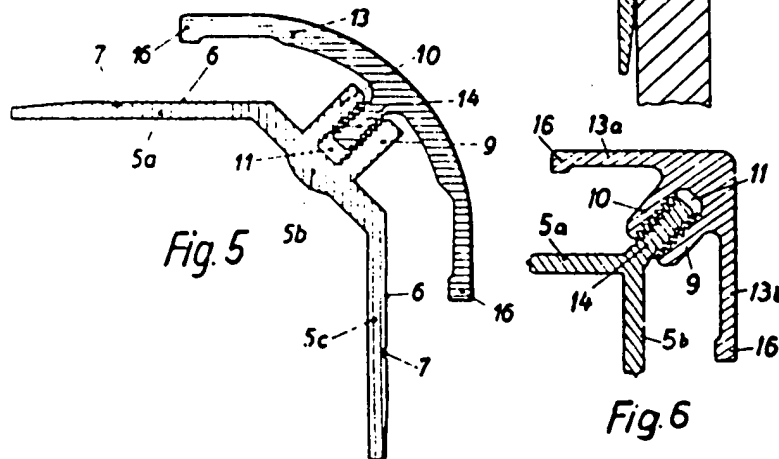
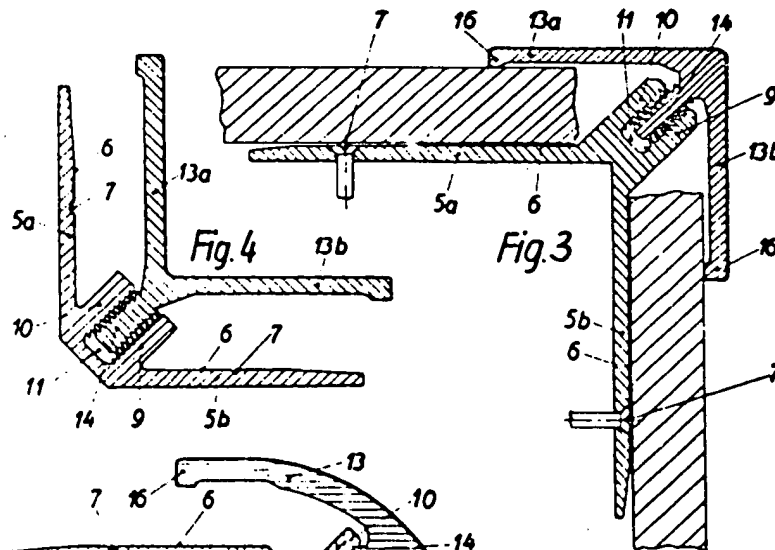
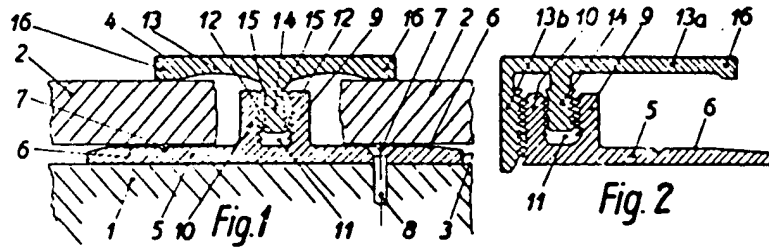


Fig. 7

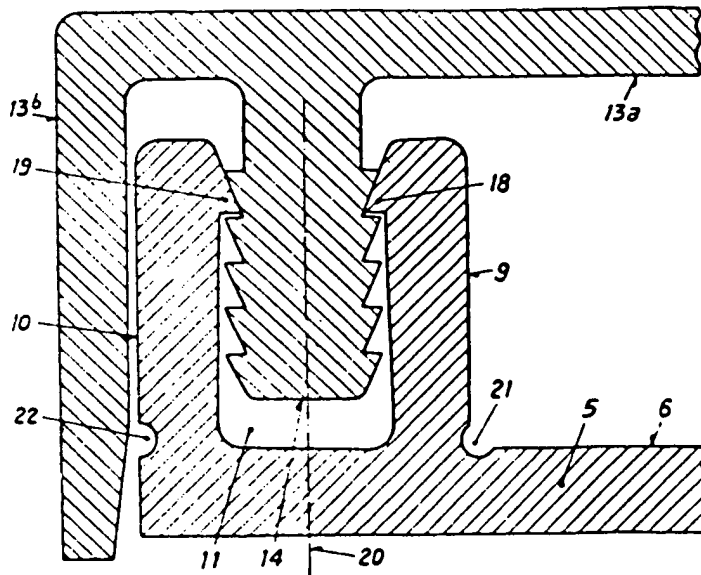


Fig. 8

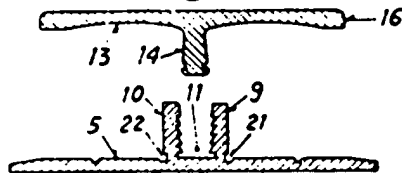
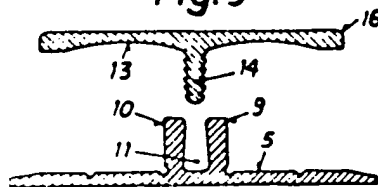


Fig. 9



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☒ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☒ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER: _____**

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.